Peer-Led Team Learning International Society

First Annual Conference

New York City College of Technology CUNY, Brooklyn, NY

300 JAY STREET, BROOKLYN, NY 11201

MAY 17-19, 2012

www.pltlis.org

Peer-Led Team Learning International Society
Inaugural Conference

New York City College of Technology
300 Jay Street, Brooklyn, New York 11201

Conference Agenda

Thursday, May 17, 2012

1:00-7:00 pm — Conference Registration
Namm 119

1:00 - 4:00 pm — Mini-Courses

Introduction to the PLTL Model
Alberto Cruz, Florida International University
Janet Liou-Mark, New York City College of Technology, CUNY
Mitsue Nakamura, University of Houston, Downtown

Introduction to Leader Training
Jose Alberte-Dueñas
Jim Becvar, University of Texas at El Paso
A.E. Dreyfuss, New York City College of Technology, CUNY

6:00 pm — Poster Presentation and Reception

6:45 pm — Welcome and Introductions

Janet Liou-Mark, Professor of Mathematics
New York City College of Technology, CUNY

Greetings

Bonne August, Provost and Vice President of Academic Affairs
New York City College of Technology, CUNY

Premiere Showing: *University of Texas at El Paso Posters on the Hill 2012*

Tony West, Videographer
Leslie Luna de Lara, Peer Leader, University of Texas at El Paso (UTEP)
James Becvar, Professor of Chemistry, UTEP

Friday, May 18, 2012

8:00 - 9:00 am	Breakfast and Conference Registration	Namm 119
9:00 – 10:15 am	Welcome and Greetings Russell Hotzler, President New York City College of Technology, CUNY	Atrium Amphitheater (AG 30)
	Keynote Speaker: Stephanie Marshall, Deputy Chief Executive at the Higher Education Academy, UK *Students at the Center of Learning: Perspective on Challenges Facing Traditional Pedagogies*	
10:15-10:30 am	Break	
10:30am-12:30 pm	Workshop Series I	
Theme: Focus on Peer Leaders & Training	1. The Scholarship of Peer-Led Team Learning: My progression from student leader to faculty 2. Major Components of Successful Leadership Training 3. Peer-Led Explorations in Chemistry: Success Strategy for STEM Learning 4. A Discourse Analysis of Peer-Led Team Learning (PLTL)	
Theme: Implementations	1. Implementing and Sustaining the PLTL Program at San Jose City College 2. Implementation and institutionalization of PLTL in a Caribbean University: Successes, Challenges and Implications 3. Hub n' Spokes: A Model for Centralized Organization of Peer Led Team Learning at Florida International University 4. Why Attendance is Mandatory in Workshops: Comparison of Course Grades of Workshop Attendees vs. Non-attendees with Similar GPA and SAT Scores	
12:30-2:00 pm	Lunch	Klitgord Gym (285 Jay Street)
	Featured Speaker: Pamela Brown, Dean of the School of Arts and Sciences (on leave), New York City College of Technology *PLTL from Several Perspectives*	
2:00-3:30 pm	Workshop Series II	
Theme: PLTL Pilot Implementations	1. PLTL in the Developmental Writing Classroom 2. Successful Implementation of PLTL for Statics I 3. Learning Programming Logic Using Executable Flowchart 4. San Jose City College Peer Leaders Share their Expertise in Leading and Evaluating Effective PLTL Workshops	
Theme: New Directions	1. Cyber PLTL (cPLTL): Development, Implementation, and Initial Findings 2. PLTL in Pajamas: Lessons Learned	
Theme: New Directions: The PERC Model	Peer Enabled Restructured Classrooms in Secondary Schools	

Friday, May 18, 2012 (continue)

3:30-4:00pm	Break	Namm 119
4:00-5:00 pm	First Annual Meeting of the Peer-Led Team Learning International Society Atrium 632	
6:00pm	Dinner (on own) Group dinner arrangement – Sign up at the Registration Desk Queen Restaurant, 84 Court Street, Brooklyn Heights NY, 11201	

Saturday, May 19, 2012

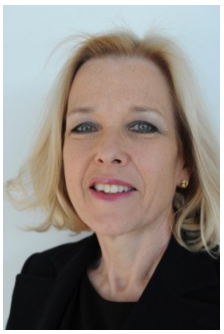
8:00 - 9:00 am	Breakfast and Conference Registration Namm 119
9:00 - 10:30 am	Workshop Series III
Theme: Institutional Change	Moving the Graveyard: Using peer learning with academic staff to secure sustainable transformational institutional change
Theme: Campus Leadership by the Leaders	Foundation of the Leaders, by the Leaders, and for the Leaders
10:30-10:45 am	Break
10:45 am – 12:15 pm	Plenary Session How can PLTLIS support new directions, implementation and sustainability, and promote institutional change?
12:30-2:00 pm	Lunch Closing Session
2:00-3:00 pm	Optional Session: Collaborations and Proposal Development

SPEAKERS

Keynote Address:

Students at the Center of Learning: Perspective on Challenges Facing Traditional Pedagogies

Stephanie Marshall



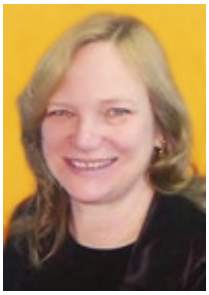
Abstract: In this keynote, current issues in the UK are explored, highlighting the need for reconsideration of traditional pedagogies to better prepare students for, firstly, lifelong learning; secondly, gainful employment beyond their degree programs; and thirdly, playing their role as engaged global citizens. The trebling (in many instances) of student fees, concerns about secondary school grade inflation and spoon feeding, and inadequate rigour in course delivery are all 'blamed' for 'transition' and retention issues, while questions about 'value added' and return on investment have been raised as issues in UK higher education. A parallel set of criticisms resonates with Arum and Roksa (2011)'s findings written up in *Academically Adrift: limited learning on college campuses*, particularly their contention that "American higher education is characterized by limited or no learning for a large proportion of students, and persistent or growing inequalities over time" (p. 30).An exploration of possible ways forward are explored, suggesting that Peer Led Teaching and Learning in the toolkit of higher education institutions seeking to address these concerns from a student support perspective could be of great benefit.

Biography: Professor Stephanie Marshall is Deputy Chief Executive (Research and Policy) at the Higher Education Academy (HEA) in the UK. The HEA is a national body for enhancing and championing learning and teaching in higher education. Working with governments, research councils, funding agencies, higher education institutions and others across the HE system, it helps to bring about change in learning and teaching to improve student outcomes. Stephanie directs the HEA's research strategies, influences policy issues, and leads on institutional strategy and change. Before joining the HEA, she served eight years as Director of Programmes at the UK's Leadership Foundation for Higher Education, which focuses on developing and improving the management and leadership skills of current and future HE leaders. Prior to this she was the Provost of one of the University of York's eight colleges. Stephanie is committed to the examination of student experiences of learning and teaching, as well as to the broader perspectives of leadership and management and the policy issues that affect learning and teaching in higher education. She edited (with Heather Fry and Steve Ketteridge) *A Handbook for Teaching and Learning in Higher Education, 3rd Ed.* (Routledge, 2009) which has been translated into several languages, *The Effective Academic* (Routledge, 2002), and edited *Strategic Leadership of Change in Higher Education: What's New?* (Routledge, 2007).

Featured Speaker:

Peer-Led Team Learning from Several Perspectives

Pamela Brown



Abstract: Peer-lead-team-learning is one of the most widely implemented and evaluated models for improving student learning and engagement in undergraduate science, math and engineering developed for higher education in recent years. Strengths, opportunities and challenges from the perspective of a professor, academic dean and NSF program officer will be presented.

Biography: Pamela Brown is currently serving as a Program Director for the National Science Foundation in the Division of Undergraduate Education, for the following programs: Advanced Technological Education (ATE), Mathematics Science Partnerships (MSP), Transforming Undergraduate Education in STEM (TUES) and STEM Talent Expansion Program (STEP). She is on leave from her position as Dean of the School of Arts and Sciences at New York City College of Technology - CUNY, where she worked with the eight departments in the School to fulfill the mission of the college. She has been a supporter of peer-led team learning since adopting it in her own chemistry classes in 1998, and has worked to expand its implementation as an administrator. A chemical engineer by training, Dean Brown earned a PhD from Polytechnic University, an SM from the Massachusetts Institute of Technology and a BS in chemistry, summa cum laude, from SUNY Albany.

WORKSHOP SERIES I
Theme: Focus on Peer Leaders and Training
10:30am-12:30 pm

The Scholarship of Peer-Led Team Learning: My progression from student leader to faculty
Amy Parente
Mercyhurst University, Erie, PA
Department of Chemistry and Biochemistry
ABSTRACT: Twenty years ago, I was an undergraduate majoring in Biology and Chemistry, struggling with the desire to integrate the details I had learned in my Chemistry courses with the 'big picture' philosophy stressed in my Biology curriculum. These early educational experiences fostered my passion for curricula geared towards interdisciplinary learning and in programs designed to increase awareness of alternative learning styles and pedagogies for instruction. My Workshop journey began shortly thereafter with PLTL's inception at the University of Rochester. Now as a faculty member I have implemented PLTL into my General Chemistry, Organic Chemistry, and Biochemistry curricula with a "full-circle" perspective that has been nearly two decades in the making. This discussion will look at the evolution of my philosophy on PLTL as I progressed from student leader to faculty as well as some strategies I have found useful for its implementation and means to involve PLTL in my scholarly activities for promotion and tenure.

Major Components of Successful Leadership Training
Jacob Kimbrell
University of West Georgia, Carrollton, GA
Department of Chemistry
ABSTRACT: Undergraduate leadership training is an integral factor to incorporating the Peer-Led Team Learning (PLTL) Model into the department of an institution. The University of West Georgia's Chemistry Department utilizes the student-influenced leadership training, which involves two primary sections. The first section encompasses a three-day training section before the beginning of scheduled classes. The second section incorporates a "retreat" meeting, which usually occurs four weeks into the semester after the new leaders have had the opportunity to lead three or four workshops. The incorporation of weekly journal entries, leaders meetings, and midterm observations allows for the constant training and improvement of the student leaders throughout the semester. Our primary goal is to always have our leaders evolving and improving the way they lead a workshop and the overall success of the PLTL Model.

Peer-Led Explorations in Chemistry: Success Strategy for STEM Learning
Crystal Acosta, Tim Brown, Maria De Pablo, Nicole Dominguez, Bonnie Gunn, Andrea Gutierrez, Jesus Guzman, Narges Kalantarian, Leslie Luna De Lara, Jonathan Muñiz, Humberto Rojo, Diana Yañez, Geoffrey Saupe, Mahesh Narayan, and James E. Becvar
The University of Texas at El Paso, El Paso, TX
Department of Chemistry
ABSTRACT: Peer-Led Team Learning (PLTL) has dramatically improved student success in general chemistry at UTEP. The weekly format has changed from three one-hour lectures (passive learning) to two large section lectures plus a required, two-hour, small-group Workshop (active learning). Every Workshop consists of a community of learners (fifteen students) overseen by a Peer Leader, an undergraduate who previously has excelled in understanding course content. Each Workshop session consists of problem solving in teams (one hour) followed by one hour of hands-on ('wet') Explorations. Explorations help the students in course relate what they are seeing in lecture to the world around them, providing students with well-rounded and contextual knowledge about the abstract concepts they are learning. Since fall 2000, the C-or-better passing rate for first-time takers in the first course in general chemistry has improved from the historic average near 55% to the current rate near 70%, translating into more than a thousand additional students over this period progressing into their science, engineering, and mathematics majors at UTEP. Undergraduate Peer Leaders will demonstrate several Explorations and explain how this form of guided inquiry learning can be integrated into the curriculum to demonstrate fundamental concepts in chemistry.

A Discourse Analysis of Peer-Led Team Learning
Regina Frey, Patrick Brown, Keith Sawyer, Mark Hogrebe, Sarah Luesse, and Daniel Gealy
Washington University, St. Louis, MO
Department of Chemistry
ABSTRACT: The PLTL model has proven to be highly successful at Washington University and other higher-education institutions. Previous evaluation indicates that our PLTL program is effective at improving students' academic performance similar to performance increases seen at other institutions. To our knowledge, no studies have investigated the discourse processes within PLTL groups. Better understanding of what takes place in successful PLTL groups will aid PLTL implementers in enhancing peer training and improving the design of the sessions. The objective of this study was to investigate the discourse between PLTL students during their sessions. First, we coded the student and peer-leader discourse and found 4 different categories of talk. Second, we examined the differences in student discourse between small-group and large-group collaborative-learning strategies over three types of problems (calculations, diagrams, and model building). We observed statistically significant discourse dependence on the collaborative-learning strategies used and the types of problems studied.

WORKSHOP SERIES I: FRIDAY, MAY 18, 2012
Theme: Implementations
10:30 am-12:30 pm

Implementing and Sustaining the PLTL Program at San Jose City College

Madeline Adamczeski and Robert Gutierrez
San Jose City College, San Jose, CA
The Metas Program

ABSTRACT: The PLTL program at San Jose City College began in 1999 with funding from the National Science Foundation that continued through 2005. More recently and currently, the PLTL program is being supported through at Title V: Hispanic-Serving Institutions grant in collaboration with the SJCC Metas Program director. Our most recent data (Fall 2011) for an introductory level chemistry and both semesters of our GOB courses, reveal student success and retention about twice that when compared to earlier SJCC data as well as that reported for PLTL's national average, 93.65% and 82.54%, respectively for students who participate in PLTL workshops (as compared to students who do not participate in PLTL workshops, with 64.83% or 52.94%, respectively). Our data also reveal that the PLTL program is addressing the achievement gap for underrepresented students in chemistry. For example, preliminary retention and success data for our Hispanic population in the courses specified above, show respectively, 87.5% and 68.75% (versus 74.63% and 61.70% for non-PLTL). Corresponding data for our Asian population are 100% in both measures for PLTL students while for non-PLTL students the corresponding data are 84.82% and 76.96% for retention and success. Clearly, the benefits of PLTL are acquired among all demographics. We attribute the success of this program, in part due to the effective collaboration with the initiatives, goals and support of the SJCC-Metas program. These data, in part will be discussed during our presentation and used to establish a budget line-item to sustain this successful program at our college.

Implementation and institutionalization of PLTL in a Caribbean University: Successes, Challenges and Implications

Novelette Sadler-McKnight and Imron Miller
The University of the West Indies, Kingston, Jamaica
Department of Chemistry

ABSTRACT: This study describes the implementation, assessment and attempts at institutionalization of the Peer-Led team Learning (PLTL) programme in two Introductory Level Chemistry courses at the University of the West Indies, Jamaica. The PLTL model was implemented in September 2008 with a sample 50 students in an attempt to address declining student performance and apathy in the first year Chemistry courses. The impact of the PLTL approach was assessed by examining students' course performance as well responses to a Gafney PLTL student survey. Results revealed that PLTL students significantly out-performed their non-PLTL counterparts in three different measures of performance. In addition, PLTL students and leaders had positive views of the workshops and a significant proportion agreed the PLTL model helped them to improve their understanding of and confidence in chemistry. Administrators were impressed and the programme was expanded in September 2011 despite funding and logistical difficulties.

Hub n' Spokes: A Model for Centralized Organization of Peer Led Team Learning at Florida International University

Jose Alberte, Alberto Cruz, Nataly Rodriguez, Thomas Pitzer
Florida International University, Miami, FL
Department of Biology

ABSTRACT: Peer-Led Team Learning (PLTL) at Florida International University (FIU) is an active learning component added to several courses within the Department of Biological Sciences. Since its inception in 2000, the program's model has evolved to accommodate a large volume of students and courses. The traditional PLTL administrative paradigm is fragmented in nature, where each professor handles every aspect of their PLTL workshops. At FIU, a centralized model is used in the administration of the PLTL program. It is the centralized office that manages every aspect of the PLTL workshops, ensuring the standardization and overall quality of workshops across all courses. This model reduces faculty's time commitment and converts the administration of PLTL into a student-centered program. Through this and other aspects of the program, FIU PLTL has become a self-sustaining, institutionalized component of undergraduate biology education.

Why Attendance is Mandatory in Workshops: Comparison of Course Grades of Workshop Attendees vs. Non-attendees with Similar GPA and SAT Scores

Lucille Garmon
University of West Georgia, Carrollton, GA
Department of Chemistry

ABSTRACT: Records of test scores and course grades going back over ten years are available for approximately 5400 students in first-semester general chemistry at the University of West Georgia. In this project those attending workshops regularly throughout a semester were matched in GPA (prior to taking general chemistry) and SAT scores with those not attending

regularly. Most students were enrolled in sections in which workshop attendance was an integral part of the course. Those not attending fell into three categories: those in sections that included workshop but who chose not to attend and thus not to meet that requirement; those who were enrolled in an honors section, which did not include workshops; and those taking the course online, as the sections offered online have up to now not included workshops. In all cases, those with similar GPA/SAT scores who attended workshop outperformed those who did not.

WORKSHOP SERIES II: FRIDAY, MAY 18, 2012
Theme: PLTL Pilot Implementations
2:00 pm-3:30 pm

PLTL in the Developmental Writing Classroom
Aaron Barlow, Amelise Bonhomme, Renee Clarke, A.E. Dreyfuss, Sung Soo Moon, Jennifer Sears, Jodi-Ann Young, and Lori Younge
New York City College of Technology, CUNY, Brooklyn, New York
Department of English
ABSTRACT: Writing placement exam preparation can be broken down into small tasks overseen by Peer Leaders, following (though not precisely) patterns set out by Fred Keller in "Good-bye Teacher" in 1968. The mechanical aspect of writing, however, is never enough for the production of essays that communicate, something that requires audience and a desire to "speak." Students in developmental classrooms often have problems beyond the writing itself: they may be test shy and may not be prepared to take on even college entry tasks without careful direction. Working with Peer Leaders, the developmental program can address the problems of mechanics and testing demands, the Peer Leaders taking on some of the responsibility for guiding students through the tasks. PLTL can also help address the broader problems of preparation for college and even for critical thinking, the Peer Leaders serving as role models. The pilot program at New York City College of Technology (CUNY) will be discussed.

Successful Implementation of PLTL for CMCE 1110
Melanie Villatoro, Marcelo Moreira, and Yineng "Alex" Liang
New York City College of Technology, CUNY, Brooklyn, NY
Construction Management and Civil Engineering Technology
ABSTRACT: I am attempting to implement the PLTL Workshops in Statics and Strength of Materials. This course is a freshman course and hopefully students experience in this course will impact their way of learning for the remainder of their career. The Spring 2012 semester is a trial period but we hope to continually assess and improve the program in the future years. I would like to share my experience, positive and negative with this method of learning and teaching.

Learning Programming Logic Using Executable Flowchart
Ongard Sirisaengtaksin, Walter Huetwohl
University of Houston Downtown, Houston, TX
Computer and Mathematical Sciences
ABSTRACT: In general, students find a programming course difficult, especially non-computer science majors. This is true no matter what programming language is being taught and used in the course, whether it is C++, Visual Basic, or Java. The main reason is that students must have both good problem solving skills or logic, and a command of the programming language syntax to be able to write a complete program from the start to the end. This implies that in order to create a program, one must be able to come up with an algorithm for the solution to the problem and then covert the algorithm into code according to the programming language used. Most students lack problem solving skills or logic. Some students have difficulty understanding programming constructs and logic. Some even have a hard time comprehending the syntax of the programming language. One possible solution to alleviate these learning problems is to engage students in a programming environment that requires only logic skills not syntax. Furthermore, students can also visualize the structure and logic of the program as well as the flow of execution of the program. So, the main objective of our project is to develop a programmable and executable chart application. The application will allow students to create a program with very minimal syntax and independent from any programming language. Students will be able to create a program using block symbols like symbols that are used in a flowchart. Block symbols that are used in the application are limited to a small set of symbols such as input, output, and condition. The reason is to avoid a confusion which block symbol to be used. So, students can concentrate on the logic of the program. Students can create a program by adding a block symbol and add a programming code/statement into the block symbol one by one until the program is complete. Then, students have an option to either to run or step through to the program. This allows students to visualize the flow of execution of the program and focus on the logic of the program rather than the syntax of the language. This application can also be used to demonstrate concepts such as if and loop constructs.

San Jose City College Peer Leaders Share their Expertise in Leading and Evaluating Effective PLTL Workshops

Athena Ford, Ngan Hong, Phat Huynh, and Tuan Nguyen
San Jose City College, San Jose, CA
Department of Chemistry

ABSTRACT: The PLTL program at San Jose City college has transformed the culture, resulting significant gains in student success and retention. Indeed, the culture has also been transformed with students acquiring a positive and enthusiastic attitude toward chemistry. For example, we have very active and energetic ACS and SACNAS Chapters on our campus. Peer leaders from San Jose City College will present the workshop implementation components of the PLTL program from perspectives both as a peer leader and a student of PLTL workshops. The poster will include responsibilities including peer-to-peer assessment, evaluation, feedback, data input, pedagogy, and continuous program review (CPR). We will also summarize program assessment data and share highlights of weekly leader meetings.

WORKSHOP SERIES II: FRIDAY, MAY 18, 2012
Theme: New Directions
2:00 pm-3:30 pm

Cyber PLTL (cPLTL): Development, implementation, and initial findings

John Sours and Pratibha Varma-Nelson
Indiana University Purdue University Indianapolis
Center for Teaching and Learning

ABSTRACT: The conditions and tools required to offer Peer-Led Team Learning (PLTL) online will be discussed. This paper is not about technology per se, but how it can be used to adapt an educational strategy that has already proven beneficial in STEM courses in a face-to-face environment and offering it in an online environment. Creation of an online collaborative environment for conducting PLTL Workshops will be discussed. Preliminary results will be presented about how it is being received by students in our general chemistry course and the effectiveness of the training provided to the students and peer leaders to work collaboratively in this environment will also be discussed.

PLTL in Pajamas: Lessons Learned [cyber workshops]

Jose Alberte, Alberto Cruz, Nataly Rodriguez, and Thomas Pitzer
Florida International University, Miami, FL
Department of Biology

ABSTRACT: The Biology Department at Florida International University (FIU) implemented a cyber Peer-Led Team Learning (cPLTL) program. Students and Leaders communicate in real time, using laptops computers and cameras, fulfilling all of the requirements of the standard model of PLTL. All participants are trained in the use of software and technology required to interact during cPLTL sessions. Initial observations indicate that students perform at least as well in cPLTL as with in-person sessions. Through this fully online version of PLTL, students who cannot attend in-person PLTL sessions are able to take advantage of the boost. The cPLTL program at FIU appears successful and is likely to be as institutionalized as the in-person format of PLTL.

WORKSHOP SERIES II: FRIDAY, MAY 18, 2012
Theme: New Directions: The PERC Model
2:00 pm-3:30 pm

Peer Enabled Restructured Classrooms in Secondary Schools

Pamela Mills, Leslie Keiler, Sarah Bonner and team of presenters
Hunter College, CUNY, New York, NY; PARTNERS: York College, CUNY, Queens, NY; New York City College of Technology, CUNY, Brooklyn, NY; Department of Education, City of New York; and others
The team of presenters are part of the Math Science Partnership in New York City 2, an NSF funded initiative to integrate peer-led collaborative learning in the high school classroom daily. The Peer Enabled Restructured Classroom (PERC) has been designed by a team of scientists, mathematicians, science educators, mathematics educators, educational researchers, teachers, and students. Representative members of the team, including teachers and students, will be present.

ABSTRACT: The Peer Enabled Restructured Classroom (PERC) is a new model for the high school classroom. In a PERC classroom, high school students teach their peers under the instruction and guidance of a classroom teacher. Ongoing studies in NYC schools find that PERC students outscore their non-PERC counterparts by 20% on state mathematics and science exams.

PERC was built on the hypothesis that the urban, high-needs high school classroom is simply too complex for a single, typical teacher to manage. The classroom needs a team of instructors; but resources are scarce. What if the team included students—not necessarily elite students, but average students whose own performance would be lifted by the experience?
PERC is a radically different classroom, built on proven techniques of peer tutoring and collaborative learning. The use of PERC in the high school classroom and the training of the peers to be leaders will be discussed. Hear the voices of the TA scholars as they discuss the impact of the peer leadership experience on their lives.

WORKSHOP SERIES III: SATURDAY, MAY 19, 2012
Theme: Institutional Change
9:00 am-10:30 am

Moving the Graveyard: Using peer learning with academic staff to secure sustainable transformational institutional change

Steve Outram
Higher Education Academy, UK
Institutional Strategy and Change

ABSTRACT: Adapted from the AAHE Summer School program the UK Higher Education Academy in partnership with the Leadership Foundation for HE has enabled over 70% of UK higher education providers to transform the student learning experiences of their students using a year-long change development programme known as "Change Academy."
Using a suite of collaborative, peer learning techniques within an "explore, challenge and apply" model of change, Change Academy has introduced a model of change to the sector that has been emulated not only by institutions themselves but also by individual colleagues in the classroom. This oral presentation will explore the nature of collaborative, peer learning in achieving successful institutional change and introduce participants to both the conceptual basis of the model and its practical application.
Reference: Bradford, M. (2009). *Change Academy Report*, Higher Education Academy
http://heacademy.ac.UK/resources/detail/changeacademy/CA_Report_MB

WORKSHOP SERIES III: SATURDAY, MAY 19, 2012
Theme: Campus Leadership by the Peer Leaders
9:00 am-10:30 am

This session is intended for Peer Leaders to brainstorm how campus PLTL programs can become embedded in the campus culture, working with faculty and administrators. The following presentation will be made to provide one model.

Foundation of the Leaders, by the Leaders, and for the Leaders

Farhad Zonoozi, Mahesh Narayan, and James E. Becvar
University of Texas at El Paso
Department of Chemistry

ABSTRACT: Funding PLTL after the grants end has often been unsuccessful leading to PLTL termination. Many universities will not step up to the plate. We propose local independent nonprofit organizations (Local Foundations), possibly Local Chapters within PLTLIS, overseen by and run by the Peer Leaders, to advance STEM education through a funded PLTL workforce. Independent Foundations can promote sustainable PLTL using the large workforce of outstanding Leaders to aid primary instructors in secondary and higher education using a grass-roots, bottom-up approach without university fees, institutional bureaucratic restrictions, or politics. The Foundation will provide pupils with the requisite skills to succeed in higher education in STEM or any other discipline. Such Foundation is proposed as a collaboration of: Academics; Industry leaders; University Students; Members of the local education district; and High School teachers. Funding will be sought primarily from local individuals, businesses, industries and philanthropic organizations.

Posters and Abstracts

A New Dimension to Electron Orbitals
Humberto Rojo and Juan C. Noveron
University of Texas at El Paso, El Paso, TX
Department of Chemistry
ABSTRACT: One of the most difficult concepts to illustrate to new chemistry students is that of electron orbitals and electron density distribution in atoms. The analogy that 'electrons orbit a nucleus like satellites orbit the earth' does not illustrate the true nature of electrons. The spherical *S* orbital is relatively easily understood, but not the *P*, *D* and other more complex orbitals. The challenge is compounded when chemical bonding involves orbital hybridization. We propose printing electron orbitals on transparency sheets so that the orbitals can be stacked upon each other to visualize how the orbitals exist in relation to each other. Replacing these with color stereo anaglyphs and using 3D glasses yields a deeper understanding of the complexity of the many different orbitals within a single atom and the even greater complexity of hybridized molecular orbitals. The "puzzle" aspect of this activity should improve a student's grasp of the 'orbitals' concept.

A Peer-led Workshop Experience in an Introductory Mathematics Class
Laura Ghezzi, Mursheda Ahmed, Maureen Cauthen, Christopher Chan, Tamika Hendricks, Trung Tran
New York City College of Technology, CUNY, Brooklyn, NY
Department of Mathematics
ABSTRACT: In this poster the instructor and the peer leaders will share this semester experience with the peer-led workshop embedded in an introductory mathematics class at the New York City College of Technology. Five peer leaders meet the class for an additional hour per week. We will discuss our methodology, successes, challenges and we will show samples of student work.

A Speed of One Molar Per Second Presents Some Blocks In the Road
Jonathan Muñiz, James Smith, Nicole Dominguez, Narges Kalantarian, Andrea Dominguez, Jesus Guzman, Farhad Zonoozi, Mahesh Narayan, and James E. Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry
ABSTRACT: It is hard for students in general chemistry to understand that a chemical reaction can have a speed. Peer Leaders in second semester general chemistry have found a 'solution': Provide the students in Workshop with large Lego®-like blocks in a large clear bag. These can be used to represent molecules with atoms of appropriate combining properties. The blocks permit visualization of reactants and products like CH_4, O_2, CO_2, and H_2O in a reaction like the combustion of methane. Concentrations can be followed as the reaction progresses by rearranging block combinations. Reacting a certain amount (e.g. one molar) per unit time can be easily represented to visualize the abstract concept of "rate of a chemical reaction". Moreover, altering the starting 'concentrations' of reactants permits students to understand two difficult concepts: limiting reagent and concentrations at equilibrium. The 'blocks' change obstacle into vehicle for students to 'get' the speed of reaction.

Academic Peer Instruction (API) Program for Remedial Algebra at LaGuardia Community College
Frank Wang, Andi Toce, Joyce Zaritsky
LaGuardia Community College, CUNY, Long Island City, NY
Department of Mathematics
ABSTRACT: In 2001, LaGuardia Community College conducted a study by deploying highly selective Academic Peer Instruction (API) tutors in 24 remedial algebra sections to promote collaborative learning and effective use of technology. The research hypothesis was that API tutors would motivate students to spend more time on studying utilizing the online learning system called "EDUCO," which in turn would improve their academic performance. We will present evidence that the 625 students in the API group consistently show better outcomes in course pass rates and mean exam scores with lower standard deviations, compared to the 415 students in the control group. We will also share results of faculty and student surveys, reflecting the promise and challenge of peer instruction.

Achieving Student Success Using PLTL

Ann Darnell, James Becvar, Benjamin Flores, Helmut Knaust, Jorge Lopez, Josefina Tinajero
University of Texas at El Paso, El Paso, TX

ABSTRACT: The PLTL Program at the University of Texas at El Paso is designed to improve the success of STEM students in their undergraduate program to ensure that a greater number graduate. This poster shows the results obtained of self-assessed impact where students feel they learn the most. Overwhelmingly, students report their greatest learning gains in small, team-based workshops led by a trained peer leader who provides active learning experiences during the mandatory, weekly two-hour workshop. The larger the course lecture sections, the larger the response that students learn most in small workshops. Retention and graduation rates continue to climb as the NSF STEP-funded grant draws to a close. As our peer leaders graduate and apply to graduate, medical, and other professional schools, we learn of the benefits provided not only to the undergraduate students enrolled in the course, but to the peer leaders themselves. An outcomes assessment of both peer leaders and students will be presented.

Case Study of Peer-Led Team Mentoring and Team Learning through Hands-on Robotic Design Project

Andy Zhang, Iem Heng, Fritzpatrick Roque, Aindan Murphy, Ethan Wong, Bijin-Bayat Makhtari, An Lin, Ali Harb, Alexander Barbaran
New York City College of Technology, CUNY, Brooklyn, NY
Department of Mechanical Engineering Technology

ABSTRACT: In January 2012, City Tech students took on a challenge to help two local high school robotic rookie teams to build two robots in six weeks for annual FIRST Robotic Competition (FRC). City Tech students served as peer mentors and played crucial roles in leading the two high school rookie teams to build two robots. The hands-on activities enable students to personally experience what works and what does not work. Learning by doing in an apprentice-type cognitive learning environment, becomes an effective way for students to learn engineering technology. These activities make technology more tangible and allow students to learn from their mistakes. The poster will document the whole process of peer mentoring and learning activities and present findings on aspects of peer-led team learning activities, and implications on curriculum modification to meet the challenge of providing the right knowledge set and skills to college students.

Classical Music Stimulates Community College Students Perception and Engagement during Chemistry Laboratories

Iván Rivera-Torres, Department of Natural Sciences
LaGuardia Community College, CUNY, Long Island City, NY
Department of Natural Sciences

ABSTRACT: Exposure to classical music has been shown to enhance brain functions such as abstraction, mathematical ability and spatial reasoning. However, previous studies have focused on students attending chemistry lectures at four-year institutions. Limited insight exists on the connection between classical music and the levels of perception and engagement among community college students during chemistry laboratories. This study exposes community college students, working in teams integrated by members from highly diverse backgrounds, to selected classical music compositions as they perform chemistry experiments. Our preliminary results suggest that following such exposure, there is a general enhancement of perception among students (measured by test scores, times of completion of experiments and surveys), which facilitates the accomplishment of the experimental goals and reinforces the understanding of the underlying chemistry concepts. It is also observed that despite the high diversity among team members, abilities related to effective peer-leadership and student interactions are also stimulated.

Developing a Community of Practice Among Peer Leaders: The Leadership Seminar

Amelise Bonhomme, A.E. Dreyfuss, Travion Joseph, Janet Liou-Mark
New York City College of Technology, CUNY, Brooklyn, NY

ABSTRACT: The Leadership Seminar is a weekly meeting that all Peer Leaders must attend. It was piloted in the fall semester of 2011 as means of creating a community of practice among the first-time and the experienced Peer Leaders, and was formalized in the spring 2012 semester. Each weekly session is one hour in duration, meeting at a time convenient for all participants; the intent is to provide an opportunity for Peer Leaders to become familiar with one another, discuss problems that arise in their workshops, and further develop their leadership skills.

Free To Learn via Freestyle PLTL

Maria De Pablo, Crystal Acosta, Leslie Luna De Lara, Geoffrey Saupe, James E.Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: At the University of Texas at El Paso, the Peer-Led Team Learning Program utilizes a freestyle learning approach in which each individual peer leader has the opportunity to guide Workshop students in the manner they feel is most effective. Each peer leader is responsible for facilitating student comprehension of content discussed in lecture, with emphasis on key concepts; for example, naming compounds. In Workshops, peer leaders are free to explore diverse learning strategies and activities ranging from problem sets, short web clips, games, pneumonic devices and songs, etc to facilitate student learning; e.g. naming compounds. Peer leaders choose activities they feel are well suited to their students, and these may be completely unlike the

plans of the other peer leaders. This method of freestyle learning is not only unique but has allowed the program to evolve (through trial and error) and to progress into a stronger Peer-Led Team Learning program.

How can female students in a math workshop increase their problem-solving capabilities?
Gendaris Tavera
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

How can the Peer Leader help students in workshop trust their partner's knowledge?
Alma Plaku
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

How can the Peer Leader help students' learning through questioning?
Jonathan Okoro
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

How can the Peer Leader support students' learning in workshop?
Connie Lu
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

How is teamwork a key to success in workshop?
Trung Tran
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

How is the Peer Leader experience enhanced through a community of practice?
Maureen Cauthen
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

Implementation of PLTL in a Freshman Biology Course at University of Houston-Downtown
Yuanyuan Kang, Lisa Matsell, Mitsue Nakamura
University of Houston-Downtown, Houston, TX
Department of Natural Sciences
ABSTRACT: As part of the UHD initiative to improve student retention and performance, we started a project to implement PLTL workshops in one freshman general biology course. Here we present our practice and some anecdotal data regarding its effectiveness in the Spring of 2011 as well as our current progress in this project. According to our data, there was an increased performance (20%) among the students who attended workshops compared to the class average and a moderate decrease (10%) in withdrawal and failing. However, we also faced challenges in certain areas such as the lack of workshop materials and biology peer leaders. Therefore we will discuss these issues and the
strategies we took to address them.

Let My People Go
Diana Yañez, Geoffrey Saupe, and James E. Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry
ABSTRACT: Motivating students to study and learn is a constant difficulty in STEM courses, especially as the semester progresses. Workshops have many types of students: some students are independent learners that don't need much extra help, but many other students benefit from significant attention of a closer to one-on-one nature. This latter category of student has a tendency to become overwhelmed without the extra help and then to simply give up. Peer-Led Team Learning at UTEP offers strategies to reach those students in need of the additional help. The "Let My People Go" incentive offers all students in Workshop the opportunity to leave early (e.g. 30 minutes early from the two-hour workshop) if they demonstrate understanding of the concepts for the week. After the successful learners have departed, the Peer Leader can assist the "Lost Sheep": those students in greater need of focused problem-solving attention.

No Stupid Questions

Timothy Brown
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: General chemistry Workshops at the University of Texas at El Paso emphasize the "peer" in "Peer-led team learning." Leaders serve as guides during Workshops, not as intellectual superiors to their students. Establishing mutual trust from the get-go generates a positive learning environment. Asking a question as an honest result of curiosity is the foundation of all science, all knowledge. The Workshop environment directly combats the fear of asking the so-called "stupid question". Taking general chemistry at North Carolina State University, the first author never had the advantage of PLTL Workshops for learning. Asking questions was not comfortable. The only process was memorization of concepts, regardless of comprehension. This was ineffective in regard to understanding chemistry and memorization resulted in a short period of retention. Peer-led team learning creates a comfortable learning environment where students are not afraid to ask questions and are provided ample opportunity to ask the "not-so-stupid" questions.

Online PLTL for CSI

Maxwell Goedjen, Brian Holtkamp, Ongard Sirisaengtaksin
University of Houston Downtown
Department of Computer and Mathematical Sciences

ABSTRACT: At the University of Houston-Downtown, we have been using PLTL workshop exercises in our introductory programming course, CSI. These exercises put emphasis on the skill to develop algorithms independent of a specific programming language. This alleviates students from a need to know the syntax of a language and put their focus on learning how to develop an algorithm for a given problem. These workshops have been done in a face-to-face setting. Since one of the CSI sections will be offered online in the fall of 2012, there is a need for PLTL workshops to be conducted online. We have been exploring a possibility of using free video conferencing applications such as Skype, Voodoo, Google+ Hangouts, to permit conducting PLTL workshops online. We will present our findings on the
comparisons of these free video conferencing applications.

Peer Assisted Learning at City Tech: An Overview

Janet Liou-Mark, Laura Yuen-Lau, Connie Lu, Lori Younge, Jodi Ann Young, Sereta Scott
New York City College of Technology, CUNY, Brooklyn, NY
Department of Mathematics

ABSTRACT: New York City College of Technology has been offering Peer Assisted Learning workshops for students enrolled in foundational mathematics courses for the past three years. Students enrolled in the workshops work collaboratively on modules facilitated by a peer leader. These workshops meet once a week for one hour to discuss questions designed to foster critical thinking, problem solving abilities and computational skills. An analysis on the effects of these workshops will be presented. Mathematics self-efficacy, task values, and goal orientation of the participants will also be examined.

Peer Leaders Training Workshop Style

Sara Wilder, Mitsue Nakamura
University of Houston Downtown, Houston, TX
Department of Computer and Mathematical Sciences

ABSTRACT: Typically workshop leaders are trained in a general classroom setting, one faculty member explaining the requirements and objectives of the workshop style to a classroom full of prospective leaders. The University of Houston-Downtown (UHD) has adapted the Peer-Led Team Learning (PLTL) training model to better suit the needs of both the students and the university by incorporating the workshop ideal into the training itself. UHD leaders experience first-hand the benefits of the workshop style and are given the chance to become familiar with the student's perspective before they begin running workshops themselves. The number of prospective leaders to be trained every semester has been reduced in accordance to the workshop style. Approximately 8 students undergo training per semester, with 11 sessions in total. The group meets for 1 hour each week under the guidance of a peer-coordinator to discuss topics from the *Peer-Led Team Learning: Handbook for Team Leaders* by Roth, Goldstein and Marcus (2001). Peer-coordinators are previously trained leaders chosen due to their interest in education; their objective is to guide the leaders through their training in a manner that workshops should be conducted. Leaders are required to read through the section of the handbook to be discussed that week, reflect over, and then answer 3-6 questions as assignment so that they can be prepared to collaborate in the workshop. The materials used in the training workshops are created by the faculty supervisor, then given to the peer-coordinator to modify according to the group's particular needs. The coordinator offers all modifications up for approval to the supervisor as well as reviews after every workshop session is completedto ensure a constant flow of communication throughout the semester.

Peer Leading Helps More Than the Students Being Led

Nicole Dominguez, Jessica G. Salazar, Mahesh Narayan, and James E. Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: Workshops help the Peer Leaders with grounding in their own STEM majors' courses by enhancing the understanding of the basic concepts taught in introductory chemistry and physics courses. Because each Peer Leader facilitates learning in at least two 2-hour workshops a week and spends a minimum of three hours preparing for those workshops, Leaders have a more in-depth understanding of basic material and study habits. This better understanding and study skill development gives Peer Leaders an advantage in preparing for and taking standardized entrance exams for advanced higher education such as MCAT, GRE, PCAT, and DAT. In addition, Peer Leaders have the advantage that they continue to review the material for years after taking the courses. Leaders increase leadership and communication skills, skills they will continue to use throughout their lifetimes in whatever career they pursue. Leaders also learn patience to help those who need it most.

Peer-Led Team Learning: A General Chemistry Approach at New York City College of Technology

Diana Samaroo, Elizabeth Mills, Renee Clarke, Si Min Tan, Siguel Brunache
New York City College of Technology, CUNY, Brooklyn, NY
Department of Chemistry

ABSTRACT: Peer-Led Team Learning (PLTL) has been implemented in General Chemistry since 2010 at NYC College of Technology. The approach used in chemistry involves workshops consisting of problem sets developed by the course coordinator. These problem sets include textbook problems as well as practice examination questions. The effectiveness of Peer-Led Team Learning at NYC College of Technology entails that attendance is required, as opposed to encouraged at workshops. Comparative data prior to and after implementation of PLTL will demonstrate improvement in grades as well as understanding chemical concepts.

Peer-Led Team Learning Addresses Problem-Solving Ability

Timothy Brown, Juan Noveron, Geoffrey Saupe, James Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: Students intending careers in medicine or any STEM major need the ability to solve problems. One cannot acquire this ability from listening, reading a textbook, or by following step-by-step directions in a lab manual. What separates Peer-led Team learning at UTEP from similar programs at other universities is the use of Explorations: hands-on, experimental-like activities, in which students, in a laboratory setting, are provided with a task or specific problem directly correlating with what they are learning in lecture. Students must work together, must "think on their toes," and must problem solve in order to obtain a solution. Explorations induce high levels of critical thinking among students. The first exploration, "Bad Breath Indicator" uses bromo-thymol-blue and produces a color change, a change inducing a huge array of questions. These in-depth questions and the chemistry behind these questions, makes explorations the epitome of what peer-led team learning at UTEP is about.

Peer Mentors Making Connections with First Year Learning Communities

Anna Acevedo, Justin Ramos, Dany Salas, Lauri Shemaria-Aguirre, Ilia Silva
New York City College of Technology, CUNY, Brooklyn, NY
The First Year Learning Communities

ABSTRACT: Our First Year Learning Communities (FYLC) assist students to adapt to college life by fostering a social connection with peers, a sense of community between students and faculty with the cooperative nature of their learning experience and connections to course work. All students in learning communities are provided with a peer mentor (advisor). The peer mentors visit the classroom, assist professors, provide information to students on a regular basis and meet with students. Peer Mentors also assist in organizing and facilitating a special orientation, events and workshops for students in learning communities. The ultimate goal of the peer mentors is to assist with increasing student success (e.g., retention, higher grades, college experience) and assist students to acclimate to college life in a positive encouraging manner. Our peer mentors provide students with a model of academic success and perseverance.

PLTL in the Developmental Writing Classroom

Aaron Barlow, Amelise Bonhomme, Renee Clarke, A.E. Dreyfuss, Sung Soo Moon, Jennifer Sears, Jodi-Ann Young, Lori Younge
New York City College of Technology, CUNY, Brooklyn, New York
Department of English

ABSTRACT: Writing placement exam preparation can be broken down into small tasks overseen by Peer Leaders, following (though not precisely) patterns set out by Fred Keller in "Good-bye Teacher" in 1968. The mechanical aspect of writing, however, is never enough for the production of essays that communicate, something that requires audience and a desire to "speak." Students in developmental classrooms often have problems beyond the writing itself: they may be test shy and may not be prepared to take on even college entry tasks without careful direction. Working with Peer Leaders, the developmental program can address the problems of mechanics and testing demands, the Peer Leaders taking on some of the responsibility for guiding students through the tasks. PLTL can also help address the broader problems of preparation for college and even for critical thinking, the Peer Leaders serving as role models. The pilot
program at New York City College of Technology (CUNY) will be discussed.

Public Speaking Paved Through Peer-Led Team Learning

Narges Kalantarian, Andrea Gutierrez, Mahesh Narayan, and James E. Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: The Department of Chemistry at the University of Texas at El Paso now uses an innovative constructivist approach to address the individualistic learning styles of students in general chemistry. Through funding from an NSF-STEP grant, UTEP has adopted a strong Peer-Led Team Learning (PLTL) curriculum in second semester general chemistry to emphasize team-based, student-directed learning. Students in this three-credit-hour course are required to attend just two hours of lecture each week by adding a small-section two-hour workshop overseen by a Peer Leader. Although workshop activities and evaluations of the program have focused on the students taking the chemistry course, Peer Leaders overseeing the workshop show significant professional growth including enhancement in their public speaking skills. Confidence and ease in speaking in front of groups can be directly correlated with semesters spent as a Peer Leader. An instrument for assessment of public speaking skill development will be presented at PLTLIS 2012.

Supporting the Community of Women in STEM through the Navigation by Mentoring and Peer Leadership Program

Janet Liou-Mark, AE Dreyfuss, Karmen Yu, Milica Jevtic, Suhua Zeng, Reginald Blake, and Reneta D. Lansiquot

ABSTRACT: The retention and persistence rates of females majoring in mathematics consistently lag behind those of their male counterparts. Indeed, the disparity in rates of females graduating in mathematics at the baccalaureate level continues to be a national challenge. Through the support of the Tensor Foundation and Mathematical Association of America Women and Mathematics grant, the Navigation by Mentoring and Leadership (NML) program at the New York City College of Technology of the City University of New York was designed to address these major issues. The goal of eradicating gender disparities in Mathematics and STEM disciplines can be helped by improving the institutional climate for women and others majoring in Applied Mathematics. To support this goal, the NML program involved students in a vibrant community offering an array of activities designed to support them through their undergraduate years. These activities have included 1) a multi-tiered mentoring program, 2) peer-led team learning leadership opportunities, 3) lunches with women mathematics faculty, 4) career preparation opportunities, 5) conference participation and presentations, and 6) cultural events.

Sustaining the PLTL Program and How it Fits into San Jose City College's Strategic Plan

Robert Gutierrez and Madeline Adamczeski
San Jose City College, San Jose, CA
The Metas Program

ABSTRACT: The PLTL program at San Jose City College began in the summer of 1999 with funding from the National Science Foundation that continued with federal, state and local grants through 2005. More recently and currently, the PLTL program is being supported through at Title V: Hispanic-Serving Institutions grant in collaboration with the SJCC Metas Program. Our strategy to ensure the sustainability of this program is to work with our office of research and planning in evaluating and assessing the program on a semester and course bases. Our most recent data (Fall 2011) for an introductory level chemistry and both semesters of our GOB courses, reveal student success and retention about twice that when compared to both earlier SJCC data as well as that reported for PLTL's national average, 93.65% and 82.54%, respectively for students who participate in PLTL workshops (as compared to students who do not participate in PLTL workshops, with 64.83% or 52.94%, respectively). Our data also reveal that the PLTL program is closing the achievement gap for underrepresented students in chemistry. For example, preliminary retention and success data for our Hispanic population in the courses specified above, show respectively, 87.5% and 68.75% (versus 74.63% and 61.70% for non-PLTL). Corresponding data for our Asian population are 100% in both measures for PLTL students while for non-PLTL students the corresponding data are 84.82% and 76.96% for retention and success. Clearly, the benefits of PLTL are acquired among all demographics. Although we attribute the success of this program, in part due to the effective collaboration with the initiatives, goals and support of the SJCC-Metas program, the grant funding period is emanate. These data are being disseminated to our administrators, up to and including the President of SJCC in the form of emails to gain travel support to participate in this conference, faculty and student participation in the President's 1st Annual Student Success Symposium, presentations at 3 SJCC Academic Senate Meetings with the last requesting a motion to sustain the PLTL program with adequate funding. The increased retention enjoyed by courses offering PLTL workshops revealed that the program is financially fiscal. To finalize sustained financial support to perpetuate the program, faculty, students, and the Metas Director prepare program reviews, including a financial report and presentation at the San Jose Evergreen Community College Board of Directors. See also our oral presentation for more details.

The PLTL Leader Boost

Jose Alberte, Alberto Cruz, Nataly Rodriguez, Thomas Pitzer
Florida International University, Miami, FL
Department of Biological Sciences

ABSTRACT: Higher grade achievement by PLTL students is well documented in the Biology Department at Florida International University (FIU) and at many other programs both nationally and abroad. Although qualitative data has demonstrated PLTL's impact on leader improvement and learning, we seek to quantify the PLTL leader boost. FIU PLTL is just beginning to ask questions about the potential benefits acquired by undergraduates who act as peer Leaders and initial observations and feedback indicate this group receives many valuable rewards such as enculturation in the discipline, increased performance in traditionally assessed learning outcomes and increased retention within the discipline.

This Is Not Just Tutoring

Sandie Han, Amelise Bonhomme, Jack Huang, Juan Mejia, Alma, Plaku, Gendaris Tavera
New York City College of Technology, CUNY, Brooklyn, NY
Department of Mathematics

ABSTRACT: MAT1175, the first credit-level math course at City Tech, covers topics in algebra and geometry. Many students at this level display a lack of skill and motivation. The embedded peer-led workshop provides a strong support to help students succeed. Led by trained peer leaders, students work diligently and collaboratively on new math concepts as well as fundamental skills. Faculty instructor and peer leaders integrate different techniques and creative ideas to cultivate a supportive environment and stimulate learning. The peer leaders and students share some of their favorite activities in this poster presentation.

Training Student Facilitators to Lead Peer-Led Group Discussions in Computing and the Sciences

Mandy Raab, Stephen Jodis
Saint Vincent College, Latrobe, PA
The Herbert W. Boyer School of Natural Sciences, Mathematics, and Computing

ABSTRACT: Saint Vincent College offers the opportunity for Peer-Led Team Learning through the Collaborative Learning Program (CLP). Student facilitators, who are faculty selected and upperclassman in their majors, lead freshmen and sophomore discussion groups in the science and computing disciplines. Each year CLP provides a summer training workshop for 8-10 new student facilitators. The workshop is divided into 3 phases. The Initiation Phase helps the students get to know each other through engaging in Ice Breaker Games and Activities. The workshop then proceeds to the Methodology Phase where students learn the pedagogy of the CLP Program. Facilitators also learn how to integrate various study skills and strategies into their CLP sessions including Time Management, Note-Taking Styles, and Learning Styles. The final stage of the workshop is the Hands-On Phase. Students practice mock sessions to feel more prepared and confident in leading a solo session during the upcoming academic year.

Using Bloom's Taxonomy in a Peer-Led Workshop in Probability and Statistics

Frank Aline, Yi Ming Yu, Suhua Zheng
New York City College of Technology, CUNY, Brooklyn, NY
Department of Mathematics

ABSTRACT: Bloom's Taxonomy goes hand in hand with the peer-led workshop's methods by providing us as peer leaders with a structured order of the learning levels taken to extend our learning capabilities. We, the Peer Leaders, assist students into progressing to the next level in mathematics by going beyond recalling, understanding and applying (Levels 1-3 of Bloom's Taxonomy). In our Probability and Statistics II workshop, we apply Bloom's Taxonomy to help the students, especially with the application of comprehension, application, and analysis (Levels 2-4). By proposing questions to the students, we initiate the recollection of the subject at hand. As a result, these questions help the establishment and encouragement of critical thinking for the students, especially in the higher levels. The Analytical level (Level 4) specifically shows that an individual can know whether what he or she is doing allows them to perform well in
the subject.

What factors influence workshop students' motivation to succeed?

Fariyal Malik
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

What happens when students in mathematics hold on to problem-solving methods that are not working?

Shelford Mitchell
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

What traits do Peer Leaders use to support their students?

Milica Jevtic
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

What types of interaction help students blossom through workshop in Statics I?

Marcelo Moreira
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

Why are students in workshop able to complete modules but do not perform well on exams?

Jack Huang
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

Why do students in workshop not like to ask questions?

Yineng "Alex" Liang
New York City College of Technology, CUNY, Brooklyn, NY
Peer Leader Training Course

Workshop Adaptability

Jesus Guzman, Timothy Brown, Geoffrey Saupe, Mahesh Narayan, and James E. Becvar
University of Texas at El Paso, El Paso, TX
Department of Chemistry

ABSTRACT: How often would a student say: "Professor, I don't understand what you're teaching. Would you mind changing your teaching style?" More than likely you will never see this scenario. Students are generally forced to adapt to the professor. The PLTL program at the University of Texas at El Paso tailors Workshop classroom to students' needs. The Leader guides students into self-learning using team-based learning activities and problem solving. This program evolves to students needs. The small classroom environment allows for a personal connection among peers. This allows students to feel comfortable to ask questions and even to make suggestions. Students can reflect on the workshop's structure and activities for the day and make recommendations for the following weeks' workshop and how it can be improved. This relaxed learning environment allows students to focus on the material at hand, not what a particular professor expects from them.

BIOGRAPHIES OF PRESENTERS

Frank Aline is currently pursuing a bachelor's degree in Applied Mathematics - Financial Science at New York City College of Technology. He has been a peer leader for five semesters. The workshops that he has lead overtime are Calculus I & II, The Fundamentals of Mathematics, and Probability and Statistics II.

Anna Acevedo is a student in the Human Services department at New York City College of Technology, CUNY. She has been a peer mentor since the beginning of the program in 2006. Anna is involved in multiple clubs, student government and also contributes to the student Newspaper. She is passionate about helping others and has branched out as a volunteer working to assist victims of domestic abuse and is also an advocate for student rights. Anna is also a member of the Honors Scholars program at City Tech.

Madeline Adamczeski earned her Ph.D. in 1989 at the University of California at Santa Cruz in organic chemistry, working in Dr. Phillip Crews' Marine Natural Products laboratory. Following graduation, she worked in industry as a senior scientist and technical consultant in natural products/drug discovery and software development companies before entering academia. During her five years in industry, she worked part-time at Diablo Valley and Las Positas Community Colleges. She began her full time academic career in 1994 at American University in Washington DC (1994-1998) and in 1999 was hired at San José City College (SJCC). She co-authored grant proposals, and was awarded numerous grants in systemic education initiatives from California State Partnership for Excellence and National Science Foundation programs. Dr. Adamczeski has been active promoting Peer Led Team Learning since 1994. Dr. Adamczeski's work with students and PLTL has frequently been recognized; in 2011 she was the recipient of the Teacher-Scholar Award of the **Santa Clara Valley Section, American Chemical Society**.

Mursheda Ahmed is majoring in Applied Mathematics, and she has led MAT 1180 and MAT1175 workshops. She also works in the Atrium Learning Center at New York City College of Technology.

Jose Alberte has been the PLTL Program Coordinator at Florida International University (FIU) since 2006 and has been participating in the program as a PLTL mentor since 2005. He earned his Bachelor of Science in Biology and is currently doing research on team-based learning paradigms as a basis for his doctoral studies in science education. He has many years of experience teaching and developing curriculum for both lecture and lab using active learning techniques, as well as writing PLTL workshops, and working with faculty, PLTL Leaders, and students alike. Mr. Alberte led and facilitated the expansion of PLTL from mentoring 250 students to approximately 3200 students per semester and over 150 PLTL mentors per semester, spanning multiple courses.

Crystal Acosta has been a Peer Leader for six semesters in General Chemistry 1, and is majoring in Biology at the University of Texas at El Paso.

Aaron Barlow, Ph.D., is Associate Professor of English at New York City College of Technology.

Ed Bagley is a student at Queensborough Community College majoring in Mathematics. He is an API tutor who works with Dr. Frank Wang.

Brenton Bishop is an undergraduate Chemistry major at the University of West Georgia, and has served as a "Superleader" and Peer Leader for several semesters.

Sarah Bonner is an Associate Professor of Educational Psychology in the Department of Educational Foundations and Counseling Programs at Hunter College, City University of New York, and one of the co-Principal Investigator of the Math Science Partnership in New York City 2. MSPNYC2 is an NSF funded initiative to integrate peer-led collaborative learning in the high school classroom daily. The Peer Enabled Restructured Classroom (PERC) has been designed by a team of scientists, mathematicians, science educators, mathematics educators, educational researchers, teachers, and students.

Amelise Bonhomme is majoring in Applied Mathematics at New York City College of Technology, where she has been peer leading the MAT 1175 (Intermediate Algebra) course for three semesters, a MAT 1375 (Pre-Calculus) course for one semester, and an English course for one semester.

Tim Brown has been a Peer Leader for one semester in General Chemistry 1, and is majoring in Chemistry at the University of Texas at El Paso.

Siguel Brunache is majoring in Construction Management at New York City College of Technology, and will be graduating in 2012. He is a Peer Leader in Chemistry, a role he also occupied at The City College of New York for four semesters before transferring to City Tech.

Fatoumata Camara is a junior at Truman High school. They have been Teaching Assistant Scholars (peer leaders) for the past two years.

Maureen Cauthen has been a Peer Leader in Fundamentals of Mathematics (MAT 1175) for one semester, and is majoring in electrical engineering technology at the New York City College of Technology, City University of NY.

Christopher Chan has been a peer leader in Calculus II (MAT1575) and Fundamentals of Mathematics (MAT1175) for two consecutive semesters. He is currently an Applied Math major and is expected to graduate in fall 2013 with a bachelor's degree. His objective after college is to attend graduate school and pursue a Masters or PhD in mathematics.

Alberto Cruz is a recent Biology graduate of FIU's Q'BIC (Quantifying Biology in the Classroom) program at Florida International University. Since beginning his college career, Alberto has been an integral part of the PLTL program with training in statistics and data analysis. His statistical expertise has been useful in collecting and analyzing the progress of students who participate in the PLTL program. Alberto has been involved in PLTL since the Summer of 2008 when he first became a leader. During that time, he conducted several PLTL sessions, and from there he rapidly began conducting more sessions and assisting the PLTL coordinator in general, including curriculum development. Alberto was promoted to the Assistant PLTL Program Coordinator in the Fall of 2009. He plans on beginning his graduate work in Biology in the Fall semester of 2013.

Maria De Pablo has been a Peer Leader for four semesters in General Chemistry 1, and is majoring in Biology at the University of Texas at El Paso.

Nicole Dominguez has been a Peer Leader in General Chemistry 2 (or Gen. Chem 1306) for one semester, and is majoring in microbiology at the University of Texas at El Paso.

A.E. Dreyfuss is a learning specialist who manages grant-funded projects at New York City College of Technology. She also teaches a course for first-time Peer Leaders, students who have done well in a course and are trained to help students to learn course material. She has a doctorate in Adult Learning from Teachers College, Columbia University, and wrote her dissertation on the phenomenon of leading by Peer Leaders.

Athena Ford is majoring in Nursing at San Jose City College. This year she has been elected the president of the American Chemical Society Chapter at San Jose City College and is a council member on the Associated Student Council. For the last year she has been a Peer-Led Team Learning Workshop leader for both Chemistry 32 A and 32 B. She co-presented work on the PLTL program at last year's SACNAS (Society for the Advancement of Chicanos and Native Americans in Science) conference at the San Jose Convention Center on October 29, 2011. She will be transferring to San Jose State University with a transfer GPA of 3.94.

Regina Frey has a joint appointment as Professor of the Practice in Chemistry and Director of The Teaching Center at Washington University in St. Louis. She teaches General Chemistry, Women-in-Science freshman-focus courses, and peer-leader training courses. Gina implemented the Peer-Led Team Learning method (PLTL) for General Chemistry at Washington University, with expansion to the Calculus series and General Physics. She developed a multi-disciplinary course for first-time peer leaders to learn facilitation and group-management skills. Gina published a paper on the evaluation of PLTL in General Chemistry at Washington University and is currently studying the discourse that occurs in PLTL groups. Gina has also implemented the Process-oriented, Guided-inquiry Learning method (POGIL) in general chemistry recitations, and is an active participant in the national POGIL project. She is interested in different group-collaboration methods and has used these methods in a variety of situation and people, including workshops for faculty and graduate students.

Lucille Garmon obtained her B.S. and M.S. from the University of Richmond and PhD. in Chemistry from the University of Virginia. After brief stints teaching at East Carolina and Auburn University she joined the faculty at West Georgia College. She has been involved with PLTL in the Department of Chemistry since 1999 and has seen it grow from seven peer leaders to forty or more per semester.

Laura Ghezzi, Ph.D., is an Assistant Professor at the New York City College of Technology since 2007. She holds a Ph.D. in Mathematics from Michigan State University (2001), she was a Post Doctoral Fellow at the University of Missouri-Columbia (2001-2004) and she held an Assistant Professor position at Florida International University before joining NYCCT. Her research is in pure mathematics, in the field of commutative algebra. She is very committed to undergraduate education and she has been teaching an introductory mathematics class with an embedded peer-led workshop each semester since Fall 2010.

Maxwell Goedjen is a sophomore studying Computer Science at the University of Houston-Downtown. He has been developing software for iOS since the launch of the iPhone in 2007. He has also worked as a Mac OS X and web developer. He is currently an undergraduate research assistant at the University of Houston-Downtown.

Bonnie Gunn, PhD, is Chemistry Laboratory Supervisor and Undergraduate Advisor for Chemistry, Biochemistry, and Forensics at the University of Texas at El Paso. She has been involved in PLTL since 2010.

Andrea Gutierrez has been a Peer Leader in General Chemistry 2 (or Gen. Chem 1306) for one semester, and is majoring in civil engineering at the University of Texas at El Paso.

Robert Gutierrez is a native of California and is proud of his humble upbringing. He was raised by his wonderful immigrant parents from El Salvador and Mexico. The only member of his family among ten siblings to attend college, Robert began in the lowest developmental courses in math and English at San Jose City College. He eventually received an associate degree and transferred in 1998 to the University of California at Santa Cruz where he received a BA in Literature in 2001. He completed his MA in English from the University of Texas at Austin in 2003. Since then Robert has been an adjunct English instructor and worked in the Reading and Writing Center at San Jose City College. He is currently Director of the Metas Program and Title V: Hispanic-Serving Institutions grant. The Metas Program coordinates instructional and student support services in collaboration with other programs and departments in an effort to increase student success.

Jesus Guzman has been a Peer Leader for two semesters, one in General Chemistry 1 and this second semester in General Chemistry 2, at the University of Texas at El Paso, where he is a post-baccalaureate student.

Sandie Han, Ph.D., is an Associate Professor of Mathematics at New York City College of Technology, CUNY. She received her doctorate from CUNY Graduate Center. She is the program coordinator for Computer Science students, and is actively involved in curriculum and program development in math and computer science. Her research interests include pedagogy and topics in additive number theory.

Tamika Hendricks has been a Peer Leader in Mathematics for two semesters at New York City College of Technology, CUNY. She co- presented at the New York State Mathematics Association of Two-Year Colleges Conference in April 2012 and **took part** in the Urban University Mathematics Conference at Baruch College on April 27, 2012. She is currently conducting research in Organic Chemistry with her mentor, Dr. Peter Spellane. She will graduate in June 2012 with a Bachelor of Science degree in Applied Mathematics and an Associate of Science degree in Computer Science. She plans to obtain a Ph.D. in Public Health, and her target concentration is Epidemiology.

Brian Holtkamp is a junior majoring in Computer Science at University of Houston-Downtown. He has had experience with 3D computer-aided architectural reproduction and Linux cluster oriented software development. He currently maintains 64-core clusters and a 3x4 LCD cluster Visualization Wall at the Grid Computing Laboratory. He is also an undergraduate research assistant at the University of Houston-Downtown.

Ngan Hong is studying nursing at San Jose City College. She is an international student from Viet Nam. She serves as the treasurer of the American Chemical Society club.

Jack Huang is an Accounting major at New York City College of Technology. This is his first semester as a Peer Leader in MAT1175 (Fundamentals of Mathematics). He is transferring to the State University of New York at Buffalo, where he plans to major in Exercise Science.

Phat Huynh is currently attending San Jose City College, and this is his third year. He is planning to transfer to a four year university, preferably UC San Diego or UC Irvine. He has conducted a total of two independent research projects in the field of Chemistry and Biochemistry. Both of his posters received Certificates of Appreciation from the national SACNAS and ACS conferences.

Milica Jevtić has been a peer leader for Calculus I (MAT 1475) and Advanced Algebra and Trigonometry (MAT 1275) mathematics courses for the Spring 2012 semester at New York City College of Technology, CUNY. Majoring in Computer Systems Technology, Milica is also a member of the Honors program, the National Society for Collegiate Scholars and the vice president of City Tech Women in STEM. After obtaining her Bachelor's degree in CST, she is planning on pursuing her Ph.D. Milica is also a digital artist and an internationally awarded karate competitor.

Stephen Jodis, Ph.D., is the PI of a STEP grant and Dean of the Herbert W. Boyer School of Natural Sciences, Mathematics and Computing at Saint Vincent College. Dr. Jodis is also a faculty member in the Dept. of Computer and Information Science. Dr. Jodis joined the college in the summer of 2011. Dr. Jodis previously served as the Interim Dean of the College of Science Technology at Armstrong Atlantic State University in Savannah, GA and was a faculty member of their ABET accredited Computer Science program for 21 years before joining Saint Vincent College.

Travion Joseph has been a Peer Leader in Mathematics (Algebra & Trigonometry) for a total of 5 semesters at New York City College of Technology, and is an Applied Mathematics major.

Narges Kalantarian has been a Peer Leader for four semesters, all in General Chemistry 2. She is a biology major at the University of Texas at El Paso, and is a "top ten senior" at UTEP, and was the banner bearer for the University at this Spring 2012 Commencement (A whale of an honor).

Yuanyuan Kang received her Ph.D. in biology from University of Houston in 2004. She taught at Lonestar College and Houston Community College before joining University of Houston-Downtown as a lecturer in 2010. She teaches both freshman level courses such as general biology and junior level courses.

Leslie Keiler is an Associate Professor of Teacher Education at York College, City University of New York, and one of the co-Principal Investigator of the Math Science Partnership in New York City 2. MSPNYC2 is an NSF funded initiative to integrate peer-led collaborative learning in the high school classroom daily. The Peer Enabled Restructured Classroom (PERC) has been designed by a team of scientists, mathematicians, science educators, mathematics educators, educational researchers, teachers, and students.

Jacob (Brett) Kimbrell is currently a Senior at the University of West Georgia and expects to graduate in December 2012, majoring in Chemistry. His involvement in the UWG Chemistry Workshop program began in the Spring of 2009, and he has served as a Chemistry workshop leader for consecutive ten semesters. He has been a Chemistry workshop "Superleader" for seven consecutive semesters. This title involves the most in-depth involvement of an undergraduate student in the workshop program. Some of the duties include leader recruitment, selection, and training; housekeeping (student employment and setup of Training Material); attending and leading weekly leaders meetings, workshops, and staff meetings; consulting the professor on a weekly basis; and preparing and amending the workbooks.

Yineng (Alex) Liang is in his first year in New York City College of Technology, CUNY and his major is Civil Engineering. He is a first-time Peer Leader in the CMCE 1104 course in Statics and Strength of Materials.

Janet Liou-Mark is a Professor of Mathematics at New York City College of Technology, CUNY. She received her doctorate in mathematics education from New York University. Her dissertation focused on factors that explored the mathematics achievement patterns of Asian-Americans in the tenth grade. For her recent research interest in the implementation of Peer-Assisted Learning workshops in mathematics she was awarded the 2011 CUNY Chancellor's Award for Excellence in Undergraduate Mathematics Instruction. In addition to her teaching responsibilities, Dr. Liou-Mark is the Director of the Honors Scholars Program for the institution.

Connie Lu has been a Peer Leader in College Algebra/Trigonometry for one semester, and is majoring in Computer Systems Technology at New York City College of Technology.

Leslie Luna De Lara has been a Peer Leader for six semesters in General Chemistry 1, and is majoring in Biology at the University of Texas at El Paso. She presented a poster on the UTEP Peer-Led Team Learning Program at the "Posters on the Hill" event on April 24, 2012 in Washington, D.C., sponsored by the Council on Undergraduate Education. Her poster was chosen as the only student from Texas, one of 74 chosen out of 850 submissions nationally.

Fariyal Malik is graduating from New York City College of Technology in June 2012, with a major in Applied Mathematics with a concentration in Science. She is a first-time Peer Leader in MAT1275 (Algebra and Trigonometry).

Alex Mair is a Living Environment teacher at Hillcrest High School.He began using peer instructors in their classes for this first time this academic year.

Juan C. Mejia has been a peer leader for MAT1275 (College Algebra and Trigonometry) ,Mat1175 (Fundamentals of Mathematics) and MAT2675 (Calculus III). His major is Applied Mathematics, with a concentration in Finance at New York City College of Technology, CUNY. He has been in this amazing program for 3 consecutive semesters.

Imron Miller has been teaching chemistry at a High school for several years and is currently enrolled as a M.Phil. research student in the Department of Chemistry at The University of the West Indies, Mona campus. His research focus is on the Implementation of PLTL at The University of the West Indies, Mona campus.

Pam Mills is Professor of Chemistry at Hunter College, City University of New York, and Principal Investigator of the Math Science Partnership in New York City 2. MSPNYC2 is an NSF funded initiative to integrate peer-led collaborative learning in the high school classroom daily. The Peer Enabled Restructured Classroom (PERC) has been designed by a team of scientists, mathematicians, science educators, mathematics educators, educational researchers, teachers, and students.

Shelford Mitchell has been a Peer Leader in mathematics one semester and is majoring in Applied Mathematics at New York City College of Technology, CUNY.

Sung Soo Moon is pursuing a second bachelor's degree in Entertainment Technology (Sound Tech) at New York City College of Technology. He has participated in PLTL as a Mathematics leader since spring semester, 2010 and also worked in the College Learning Center as a Mathematics tutor (College Assistance). He holds a bachelor of science in Physics at Chung-Ang University, Seoul, Korea, and has broad experience in computer technology as well as a certificate of CCNP (Cisco Certified Network Professional).

Marcelo Moreira is a Peer Leader in Statics and Strength of Materials 1 and is majoring in Civil Engineering in the New York City College of Technology, CUNY. He is a member of the NSCS (National Society of Collegiate Scholars) and the ASCE (American Society of Civil Engineers). He plans to continue being a Peer Leader in the same course until he graduates with an Associate Degree in Civil Engineering. He plans to transfer to The State University of New York at Buffalo (SUNY Buffalo) to acquire a Bachelors Degree of Science in Civil Engineering.

Jonathan A. Muñiz has been a Peer Leader in General Chemistry 2 (or Gen. Chem 1306) for one semester, and is majoring in Chemistry at the University of Texas at El Paso.

Mahesh Narayan, Associate Professor and Assistant Chair of Chemistry at the University of Texas at El Paso, specializes in the Biochemistry of Protein folding and misfolding. He has been involved in PLTL since 2005.

Mitsue Nakamura has been a lecturer of mathematics at the University of Houston-Downtown (UHD) since 1988. She received her B.S. and M.S. degrees in mathematics from the University of Houston in 1985 and 1987 respectively. She is currently working on her Ph.D. degree in mathematics at the University of Houston. Her research area is in operator algebras and operator theory. She has been involved in the Peer-Led Team Learning Project at UHD as a faculty coordinator and advisor. She also works with the UHD Scholars Academy, a competitive scholarship program to support students in STEM fields, as a mentoring coordinator.

Tuan Nguyen lives in San Jose City, California since 2005 and has been studying at San Jose City College and Evergreen Valley College since 2006. She is a double major, in Nursing and she is preparing to take the TEAS test in order to qualify to apply into Nursing School, and Chemistry. She has been a San Jose City College Peer Leader for two semesters. During that time, she notes, "I have found the beauty of the Chemistry and I am very interested in Organic Chemistry. So, I decided to take Chemistry as my second major."

Shastina Oglesbee is an undergraduate Chemistry major at the University of West Georgia, and has served as a "Superleader" and Peer Leader for several semesters.

Brian Ortiz is a junior at Truman High school. They have been Teaching Assistant Scholars (peer leaders) for the past two years.

Dusty Otwell has been a peer leader since 2002. She graduated with a B.S. in Chemistry from the University of West Georgia in 2003 and has taken graduate courses in education and in business. In 2008 she became a full-time staff member of the Department of Chemistry as a Laboratory Coordinator and Assistant Workshop Coordinator.

Steve Outram has over 35 years experience working in higher education. Following a career teaching and researching in the field of social policy he became an academic developer in 1993 researching and writing about change in higher education. He is the Academic Lead for Institutional Strategy and Change at the UK Higher Education Academy and has led or participated in over 20 change programmes. He is a member of the Editorial Board of Educational Developments, a publication of the UK Staff and Educational Development Association and he is a Visiting Fellow at the University of Liverpool.

Amy Parente is an Assistant Professor of Chemistry and Biochemistry at Mercyhurst University in Pennsylvia. A 1995 graduate of SUNY Fredonia with dual Bachelor's degrees in Biology and Chemistry, she continued her education at the University of Rochester, earning a M.S. in Chemistry in 1997 and her Ph.D in Bioorganic Chemistry in 1999. While at Rochester, she was recognized for her scholarly, research, and teaching accomplishments through a Sherman Clarke Fellowship, Weisberger Memorial Fellowship, and the Carl A. Whiteman Teaching Award. Amy completed her postdoctoral work at Penn State University, funded by an American Cancer Society Postdoctoral Fellowship. Her research interests are divided between structure-function studies of oligonucleotides, environmental biochemistry, and science education (implementation of alternative pedagogies). Dr. Parente has authored several research articles in both fields and was most recently published in the *Journal of Molecular Biology* as well as the *Journal of College Science Teaching*.

Wayne Peart is a Mathematics teacher at Hillcrest High School.He began using peer instructors in their classes for this first time this academic year.

Thomas Pitzer did his graduate work in population genetics at Auburn University in 1992. He is a senior lecturer at Florida International University. He has served the Department of Biological Sciences for 20 years as an instructor (Biology Education Seminar, General Biology I and II and many others), course coordinator, laboratory coordinator, Teaching Assistant Coordinator, and Faculty Director of Peer Led Team Learning (PLTL). Thomas serves the University as Chair of the Institutional Animal Care and Use Committee. Mr. Pitzer has focused much of his attention and research on effective use of alternative teaching strategies to improve learning performance of students in STEM (Science, Technology, Engineering, and Math). Mr. Pitzer oversees a very large PLTL program which has become embedded within most undergraduate courses within the Biology department.

Alma Plaku has been a Peer Leader in Math 1175 for one semester, and is majoring in Dental Hygiene at New York City College of Technology, CUNY. She is a member of the Honors and Emerging Scholar Program and National Society of Collegiate Scholars.

Mandy Raab, Ph.D., MSIS is the Co-PI of a STEP grant and Director of Biotechnology at Saint Vincent College, Latrobe, PA. At Saint Vincent, Dr. Raab helped develop the college's new interdisciplinary programs of Bioinformatics and Biotechnology. Dr. Raab worked for seven years in industry in the field of Biomedical Informatics before coming to Saint Vincent College.

Justin Ramos is a 2010 graduate of New York City College of Technology, CUNY, majoring in Computer Information Systems. He has been a mentor for the program since its inception in 2006. Justin has been heavily involved in a club he helped create on campus, the Video Game Alliance, as its treasurer and vice president in different years. He has been involved with Student Life, the Wellness Center and worked with the head of the purchasing department regarding students concerns. Justin currently works at City Tech in the Voorhees Tech Center, using his skills as a mentor and CIS degree.

Iván O. Rivera-Torres was born in San Juan, Puerto Rico. He received his B.S. degree in Biology (1996) from the University of Puerto Rico, Río Piedras Campus. He completed the Ph.D. and M.S. degrees in Biochemistry (Membrane Protein NMR) both from the Albert Einstein College of Medicine of the Yeshiva University in New York in August 2004 and May 2000, respectively, under the mentorship of Prof. Mark E. Girvin. In late 2007, IO Rivera-Torres received a Postdoctoral Fellowship in Biochemistry from The Hebrew University of Jerusalem, Israel and worked a season in the laboratory of Prof. Shimon Schuldiner. IO Rivera Torres was Adjunct Associate Professor in the Biology Department of the University of Puerto Rico in Río Piedras and Assistant Professor of Chemistry at Hostos Community College - CUNY. At the present time, IO Rivera-Torres is an Assistant Professor of Chemistry at LaGuardia Community College - CUNY.

Nataly Rodriguez was first encouraged to become a Leader for PLTL as a General Biology I Lab student for Alberto Cruz, the Assistant Coordinator for the program. Nataly began leading in PLTL for General Biology II in Fall 2010 at Florida International University. She consistently led Biology II PLTL throughout the following semester in Spring 2011. In the Summer, she started leading for General Biology I, while also taking the Biology Education Seminar, first offered that semester and taught by Jose Alberte and Thomas Pitzer, increasing her passion for pedagogy in STEM education. She applied her newly-learned skills in PLTL and thrived in the discussions held in the Seminar. Here Jose and Thomas recognized Nataly's interest and dedication in STEM pedagogy, and extended her position in PLTL to Assistant Coordinator. She is working on obtaining a B.S. in Biology Education.

Humberto Rojo has been a Peer Leader for one semester in General Chemistry 1, and is majoring in Chemistry at the University of Texas at El Paso.

Novelette Sadler-McKnight has been a lecturer in Inorganic Chemistry at the University of the West Indies, Mona for more than 20 years. Her research interests include *Inorganic reaction mechanism* where she studies the synthesis and reactivity of molybdenum and ruthenium complexes and their applications as catalysts for chemical reactions, models for enzymes; and *Chemical Education*: Research focus on the design, and validation of instruments to measure different dimensions of student learning, both cognitive and affective. Identifying effective instructional strategies and approaches (problem based learning, peer led team learning, collaborative, case based-instruction) that foster student motivation and development of higher-order thinking skills.

Dany Salas is a student at New York City College of Technology, CUNY in the Computer Information Systems department and will graduate January 2013. Dany also obtained an Associate degree in Digital Electronics in the Dominican Republic. He has worked with the learning communities and At Home in College program for two years. Dany recently completed a competitive and rigorous internship at Goldman Sachs. He has also been involved in his roles as president of the Computer club, Microsoft Student Partner representative on campus, former vice-president of the GSA club and member of the Honors Scholars program at City Tech.

Geoffrey Saupe, Associate Professor and Associate Chair of Chemistry at the University of Texas at El Paso, specializes in the Analytical Chemistry and the chemistry of layered materials made from titanium and niobium oxides. He has been involved in PLTL since 2004.

Sereta Scott is a graduate of New York City College of Technology who majored in Computer Systems Technology. She was a mathematics peer leader for two years.

Jennifer Sears has taught English at New York City of Technology since 2003. She is a faculty member for the First Year Summer Program and has been a coordinator for the Common Reading Project since 2009. She received her MFA in fiction writing from Columbia University's School of the Arts.

Lauri Shemaria-Aguirre has been coordinating First Year Programs at New York City College of Technology, CUNY since 2004 and has experience coordinating the education of students of all ages. Through her leadership and under the auspices of CUE, USIP was transformed from a test prep program into the First Year Summer Program where new students' needs are met through a variety of comprehensive freshman experiences. She is also the administrator for the First Year Learning Communities, where she created the mentoring program of Peer Advisors for freshmen in 2006. She holds degrees from Mannes College the New School for Music and Hunter College.

Ilia Silva is a Program Coordinator at New York City College of Technology, CUNY in the Office of First Year Programs since 2006. She works closely recruiting, training and supervising Peer Mentors in the First Year Learning Communities and in the At Home in College programs. Ilia received her Master of Arts from New York University in Higher Education Administration with a focus in counseling and a dedication to issues facing underrepresented students. Prior to working at City Tech she was employed at the University of Vermont and The Juilliard School.

Ongard Sirisaengtaksin is an Associate Director of the Center for Computational Sciences and Advanced Distributed Simulation since 1995, and a Co-Director of Grid computing Laboratory at the University of Houston-Downtown. He received a Ph.D. in Applied Mathematics from University of Texas at Arlington. He has held his current position of Professor of Computer and Mathematical Sciences at the University of Houston-Downtown since 1986. His research areas of interests include artificial neural networks, fuzzy sets, intelligent control systems, multi-agent systems, parallel computing, 3D modeling and visualization, singular perturbations, and stochastic differential systems. He has published over 60 research papers. He currently serves as PI on the NSF CI-TEAM Implementation award Minority Serving Institutions – Cyber-Infrastructure Empowerment Coalition (MSI-CIEC), Co-PI on the NSF S-STEM award, Undergraduate/Graduate Student Immersion in Computer Science, Technology and Mathematics, Co-PI on the NSF Major Research Instruments award, Acquisition of a Computational Cluster Grid for Research and Education in Science and Mathematics, and co PI on NSF OCI- SDCI award, From Desktops to Clouds -- A Middleware for Next Generation Network Science.

John Sours served as a peer leader for general chemistry for eight semesters and a student coordinator for six semesters. He majored in chemistry at IUPUI and has just finished his first year of medical school at the Indiana University School of Medicine. John became involved in cPLTL in May 2009 and was actively involved in its development and implementation.

Gendaris Tavera is majoring in Accounting at New York City College of Technology (City Tech), CUNY. This semester she was elected treasurer of the Accounting Society and volunteered for the Volunteer Income Tax Assistance (VITA) Program. She joined the PLTL program in the Spring 2012 semester and has been a Peer-Led Team Learning Workshop leader in MAT1175 (Fundamentals of Mathematics). She co-presented this spring at the New York State Mathematics Association for Two Year Colleges (NYSMATYC) annual conference and at the The Mathematical Association of America (MAA) regional conference. She plans to transfer to Baruch College, CUNY, to get her BA Degree.

Andi Toce is the assistant director of the API Program and Adjunct Instructor of Mathematics at LaGuardia Community College, CUNY.

Melanie Villatoro is an assistant professor in the Department of Construction Management and Civil Engineering Technology at New York City College of Technology, CUNY. Prior to joining the City Tech faculty in Fall 2009, Melanie worked for Langan Engineering and Environmental Services as an Assistant Project Manager. She is a licensed engineer in the state of New York. Melanie received her Bachelor of Engineering degree in Civil Engineering from The Cooper Union for the Advancement of Science and Art and a Master's of Science degree in Geotechnical Engineering from Columbia University. She is Vice President of the NYC Professional Chapter of The Society of Hispanic Professional Engineers.

Frank Wang is Professor of Mathematics at LaGuardia Community College, CUNY.

Tony West is a pictographer, the founding partner in production and editing houses in London, Paris and Milan. He has directed, produced and edited many documentaries and commercials (Media Key Best Commercial Award, Milan; Clio, Best International Editing, USA; Best Editing Minerve, France). He graduated from Cambridge University (Modern Languages), and Rome Centro Sperimentale di Cinematografia (directing course - British Council scholarship). The videos on the PLTLIS website are all his work.

Ellen Goldstein West is a science educator and learning specialist. She retired in 2004 from her position as the Associate Director, Center for Teaching & Learning and the Director, NASA Regional Educator Resource Center at City College of New York. She is co-author of the *Peer-Led Team Learning: Handbook for Team Leaders* (with Vicki Roth and Gretchen Marcus, 2001), and has been involved with Peer-Led Team Learning since the mid-1990's, with a special focus on teacher preparation, and served as co-Principal Investigator on several grants from the National Science Foundation and the federal Department of Education to disseminate PLTL.

Sara Wilder is a junior majoring in Applied Mathematics at the University of Houston-Downtown. She has been conducting research in the biological mathematics field modeling insect populations over time using delay-differential logistic equations since 2010. Currently she is a CMS tutor, Scholars Academy peer mentor, and the UHD PLTL training peer-coordinator.

Diana Yañez has been a Peer Leader for two semesters in General Chemistry 1, and is majoring in Cellular and Molecular Biochemistry at the University of Texas at El Paso.

Jodi-Ann Young is currently a graduate student at Brooklyn College, majoring in Information Systems. She was a peer-leader at New York City College of Technology for about 2 years and assisted with workshops in Mathematics as well as English.

Lori Younge served as a Peer Leader in mathematics at New York City College of Technology for six semesters. Currently, she is enrolled in a master's program in Applied Mathematics at Hunter College. Lori's work includes mathematics tutoring. She will be teaching at New York City College of Technology as an adjunct instructor in the fall 2012 semester.

Karmen Yu is majoring in Applied Mathematics with a concentration in Science at New York City College of Technology. She has been a Peer Leader since Spring 2010 in Pre-Calculus, Calculus II, and MAT 1275 (Algebra and Trigonometry). She is also the President of the City Tech Women in STEM Club and Vice President of National Society of Collegiate Scholars at City Tech, and plans to obtain a doctorate in Mathematics Education.

Yi Ming Yu is majoring in Applied Mathematics at New York City College of Technology. He has been a Peer leader for five semesters, in Calculus I, II, III, and Probability and Statistics II.

Laura Yuen-Lau has been one of the PLTL coordinators at New York City College of Technology since 2008. She has helped established an engaging and supportive community of practice among the peer leaders.

Joyce Zaritsky is Professor of Communication Skills and the director of the Academic Peer Instruction Program at LaGuardia Community College, CUNY.

Suhua Zeng is majoring in Applied Mathematics at New York City College of Technology. She has been a Peer Leader for one year. This semester she is leading workshops in Probability and Statistics 1 and Embedded MAT 1275.

Andy S. Zhang, PhD earned his master's in mechanical engineering from the City College of New York in 1987 and his Ph.D. in mechanical engineering from the Graduate Center of the City University of New York in 1995. Dr. Zhang's research area includes materials testing, product design and prototyping, CAD/CAE, and mechatronics. From 2007 to 2009, Dr. Zhang served as a member of the Pre-Engineering Advisory Commission of Advisory Council for Career and Technical Education of NYC Department of Education which was designed to help high schools to enhance existing technology curricula and to create new courses to meet the New York State Education Department's new technology standard. Dr. Zhang is also a member of the NYC FIRST Robotic Competition's Planning Committee. Dr. Zhang has organized numerous weekends and after school robotic training workshops for high school students.

The PLTLIS Conference Organizers

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PLTLIS Workshop on Institutional Change
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The Second Annual Peer-Led Team Learning Conference
May 30-June 2, 2013
University of Houston-Downtown